5

PCT/GB2004/005406

20

CLAIMS

- 1. An electrode comprising a metallised carbon-insulator composite.
- 2. An electrode as claimed in claim 1, wherein the metallised carbon-insulator composite is a ruthenium-modified carbon-insulator composite.
- 3. An electrode as claimed in claim 1, wherein the metallised carbon-insulator composite is a platinum or rhodium modified carbon-insulator composite.
- 4. An electrode as claimed in any one of claims 1 to 3, wherein the metallised carbon-insulator composite is a metallised carbon-epoxy composite.
 - 5. An electrode as claimed in any one of claims 1 to 4, wherein the volume fraction of the metallised carbon in the metallised carbon-insulator composite is in the range of 15 to 45%.
- 6. An electrode as claimed in any one of claims 1 to 5, for use in the detection and/or measurement of free available chlorine by electrolysis.
 - 7. An electrode as claimed in any one of claims 1 to 5, for use as a component of a fuel cell, primary or secondary cells for batteries, electrolysers and electrochemical reactors.
- 20 8. A method for the manufacture of an electrode as claimed in any one of claims 1 to 7, which comprises the preparation of a metallised carboninsulator composite.
 - 9. A method as claimed in claim 8, wherein the metallised carbon-insulator composite is a ruthenium-modified carbon-insulator composite.
- 10. A free available chlorine sensor incorporating an electrode made from a metallised carbon-insulator composite.
 - 11. A free available chlorine sensor as claimed in claim 10, wherein the metallised carbon-insulator composite is a ruthenium-modified carbon-insulator composite.
- 12. A free available chlorine sensor as claimed in claim 10 or 11, wherein there are two or more electrodes arranged in parallel.